IN THE CLAIMS

Please cancel claims 1-32 without prejudice or disclaimer, and substitute new claims 33-64 therefor as follows:

Claims 1-32 (Cancelled).

33. (New) A method of manufacturing pneumatic tyres for vehicle wheels, comprising the following steps:

assembling a tyre being processed on a toroidal support having an outer surface the shape of which substantially matches that of an inner surface of the tyre itself, building at least one carcass structure on said support, said carcass structure comprising a radially internal layer containing elastomer material in contact with the outer surface of the toroidal support, at least one carcass ply the ends of which are associated with at least one bead structure comprising at least one annular reinforcing structure and an elastomer filler;

closing the toroidal support and the tyre under processing assembled therewith into a hermetically sealed cavity;

admitting a working fluid into said cavity, pressing the inner surface of said tyre being processed against the outer surface of said toroidal support;

supplying heat to said tyre being processed to start vulcanisation of at least one elastomer element of the carcass structure between said elastomer filler and said radially internal layer;

extracting said toroidal support carrying said tyre being processed from said cavity;

completing building of the tyre being processed;

closing the built tyre and the toroidal support within a moulding cavity defined in a vulcanisation mould, said moulding cavity having walls conforming in shape to an outer surface of the tyre when vulcanisation has been completed;

moulding the tyre by pressing it with its outer surface against the walls of the moulding cavity; and

supplying heat to the built tyre to vulcanise the tyre.

34. (New) The method as claimed in claim 33, wherein said tyre being processed comprises a belt structure associated with said carcass structure.

35. (New) the method as claimed in claim 33, wherein said step of admitting said working fluid comes before said step of supplying heat to said tyre being processed.

36. (New) The method as claimed in claim 33, wherein said step of admitting said working fluid takes place substantially concurrently with said step of supplying heat to said tyre being processed.

37. (New) The method as claimed in claim 33, wherein said step of supplying heat takes place by heat generation on the surface of said toroidal support.

38. (New) The method as claimed in claim 33, wherein said step of supplying heat takes place by heat generation at the inside of said tyre being processed.

39. (New) The method as claimed in claim 37, wherein said heat generation occurs by magnetic induction over a period of time of about one minute to about six minutes.

40. (New) The method as claimed in claim 37, wherein pressure generated by said fluid in said hermetically sealed cavity is about 5 to 15 bars.

41. (New) A plant for manufacturing pneumatic tyres, comprising:

at least one building station comprising an automated apparatus for handling a toroidal support on which each green tyre is built, said toroidal support having an outer surface the shape of which substantially matches that of an inner surface of the tyre itself;

at least one apparatus to carry out a partial vulcanisation of said green tyre being processed, said apparatus comprising: at least one hermetically sealed cavity set to receive the toroidal support carrying the tyre being processed, at least one heating device to generate heat at least on the surface of the toroidal support, at least one device for feeding working fluid under pressure, associated with said cavity to press the radially internal surface of the tyre being processed against the radially external surface of said toroidal support; and

at least one apparatus for vulcanising a moulding said green tyre once said tyre has been built.

42. (New) The plant as claimed in claim 41, wherein said heating device comprises at least one magnetic inductor.

43. (New) The plant as claimed in claim 41, wherein said toroidal support has an outer surface of ferromagnetic material.

44. (New) The plant as claimed in claim 41, wherein said hermetically sealed cavity is delimited by a lower half and an upper half of said apparatus.

45. (New) The plant as claimed in claim 44, wherein said upper half is linked to said lower half by at least one hinge enabling rotation of same on the vertical plane of said apparatus.

46. (New) The plant as claimed in claim 44, wherein at least one sealing element is provided between the opposite surfaces of said lower and upper halves.

47. (New) The plant as claimed in claim 42, wherein said magnetic inductor is an annular inductor having a C-shaped transverse section and placed close to the inner side walls of said apparatus.

48. (New) The plant as claimed in claim 42, wherein said magnetic inductor has a power of about 25 KW to about 60 KW.

49. (New) The plant as claimed in claim 41, wherein said device for feeding working fluid comprises the presence of a delivery duct and an exhaust duct.

50. (New) The plant as claimed in claim 44, wherein abutment surfaces are provided to horizontally support said toroidal support within said cavity.

51. (New) The plant as claimed in claim 50, wherein said abutment surfaces are operatively associated with hydraulic devices to exert pressure on the shoulder regions of said toroidal support.

52. (New) The plant as claimed in claim 51, wherein said hydraulic devices comprise two pairs of pistons, a first pair associated with said upper half, and a second pair associated with a bedplate.

53. (New) An apparatus for carrying out a partial vulcanisation of a green pneumatic tyre being processed, comprising:

at least one hermetically sealed cavity set to receive a toroidal support carrying the tyre being processed:

at least one heating device to generate heat at least on the surface of the toroidal support; and

at least one device for feeding a working fluid under pressure and associated with said cavity to press the radially internal surface of the tyre being processed against the radially external surface of said toroidal support.

54. (New) The apparatus as claimed in claim 53, wherein said heating device comprises at least one magnetic inductor.

55. (New) The apparatus as claimed in claim 53, wherein said toroidal support has a surface of ferromagnetic material.

56. (New) The apparatus as claimed in claim 54, wherein said magnetic inductor is an annular inductor having a C-shaped cross section and placed close to the inner side walls of said apparatus.

57. (New) The apparatus as claimed in claim 54, wherein said magnetic inductor has a power of about 25 KW to about 60 KW.

58. (New) The apparatus as claimed in claim 53, wherein said hermetically sealed cavity is delimited by a lower half and an upper half of said apparatus.

59. (New) The apparatus as claimed in claim 58, wherein said upper half is linked to said lower half through at least one hinge enabling rotation of same on a vertical plane of said apparatus.

60. (New) The apparatus as claimed in claim 58, wherein at least one sealing element is provided between the opposite surfaces of said lower and upper halves.

61. (New) The apparatus as claimed in claim 53, wherein said device for feeding said working fluid contemplates the presence of a delivery duct and an exhaust duct.

62. (New) The apparatus as claimed in claim 58, wherein abutment surfaces for horizontally supporting said toroidal support are provided within said cavity.

63. (New) The apparatus as claimed in claim 62, wherein said abutment surfaces are operatively associated with hydraulic devices to exert pressure on the shoulder regions of said toroidal support.

64. (New) The apparatus as claimed in claim 63, wherein said hydraulic devices comprise two pairs of pistons, a first pair associated with said upper half and a second pair associated with a bedplate.